Abstract

A system and method for generating a curve, such as a Low Discrepancy Curve, on a surface, such as an abstract surface with a Riemannian metric. The system may comprise a computer which includes a CPU and a memory medium which is operable to store one or more programs executable by the CPU to perform the method. The method may: 1) parameterize the surface; 2) select a curve, such as a Low Discrepancy Curve, in a parameter space, for example, a simple space such as a unit square; 3) re-parameterize the surface, for example, re-parameterize the surface such that a ratio of line and area elements of the surface based on a Riemannian metric is constant; and 4) map the curve onto the surface using the re-parameterization. The method may also generate output comprising information regarding the mapped curve, for example, displaying the mapped curve on a display device.

Patent Application